

Analyzing Blood Donation probabilities and number of possible donors

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INTRODUCTION

Blood transfusion has critical importance for human survival in risky situations that may occur. The number of possible donors and blood donation probabilities can be determined by using machine learning approaches. When the need for blood occurs in the future, medical professionals can predict potential donors for blood donation. Machine learning algorithms can support the blood transfusion process using datasets. When it comes to human health, data analysis is carried out to help prevent situations that will have critical consequences. By looking at the results of the data analysis, donors who may donate blood can be detected. In order to make this process carried out as expected, accurate and complete access to existing records must be provided. Blood transfusion has been provided for many years.

MODULES

➤ USERS

1. Registration
2. Login
3. View blood requirements
4. Accept blood request
5. Donate
6. Search blood

➤ BLOOD BANK

1. Login
2. Add blood requirements
3. View request status
4. Update donation information
5. Probability check

METHODOLOGY

In this Project the aim is to donate blood by users and also by the blood bank system . The blood bank can also request for blood and also check the probability of getting the blood by using the history of a donor by their previous history.

At the user side user can also donate the blood , accept the blood , view donation status also.

DEVELOPING ENVIRONMENT

Software Requirements

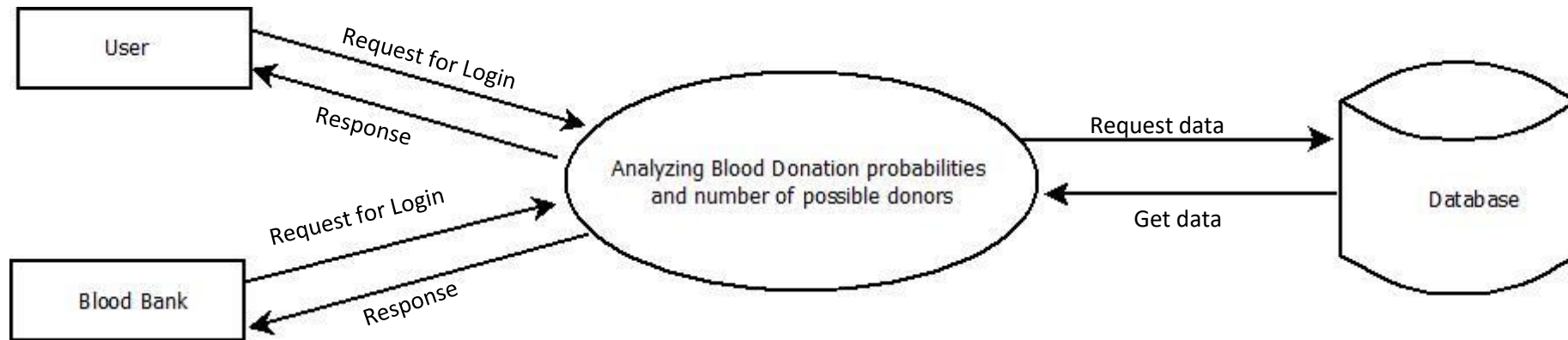
- OPERATING SYSTEM : WINDOWS Platform
- FRONT END : HTML, CSS, JAVASCRIPT
- BACK END : Mysql
- IDE USED : JetBrains Pycharm, Android studio
- TECHNOLOGY USED : PYTHON JAVA
- FRAME WORK USED : Flask

Hardware Requirements

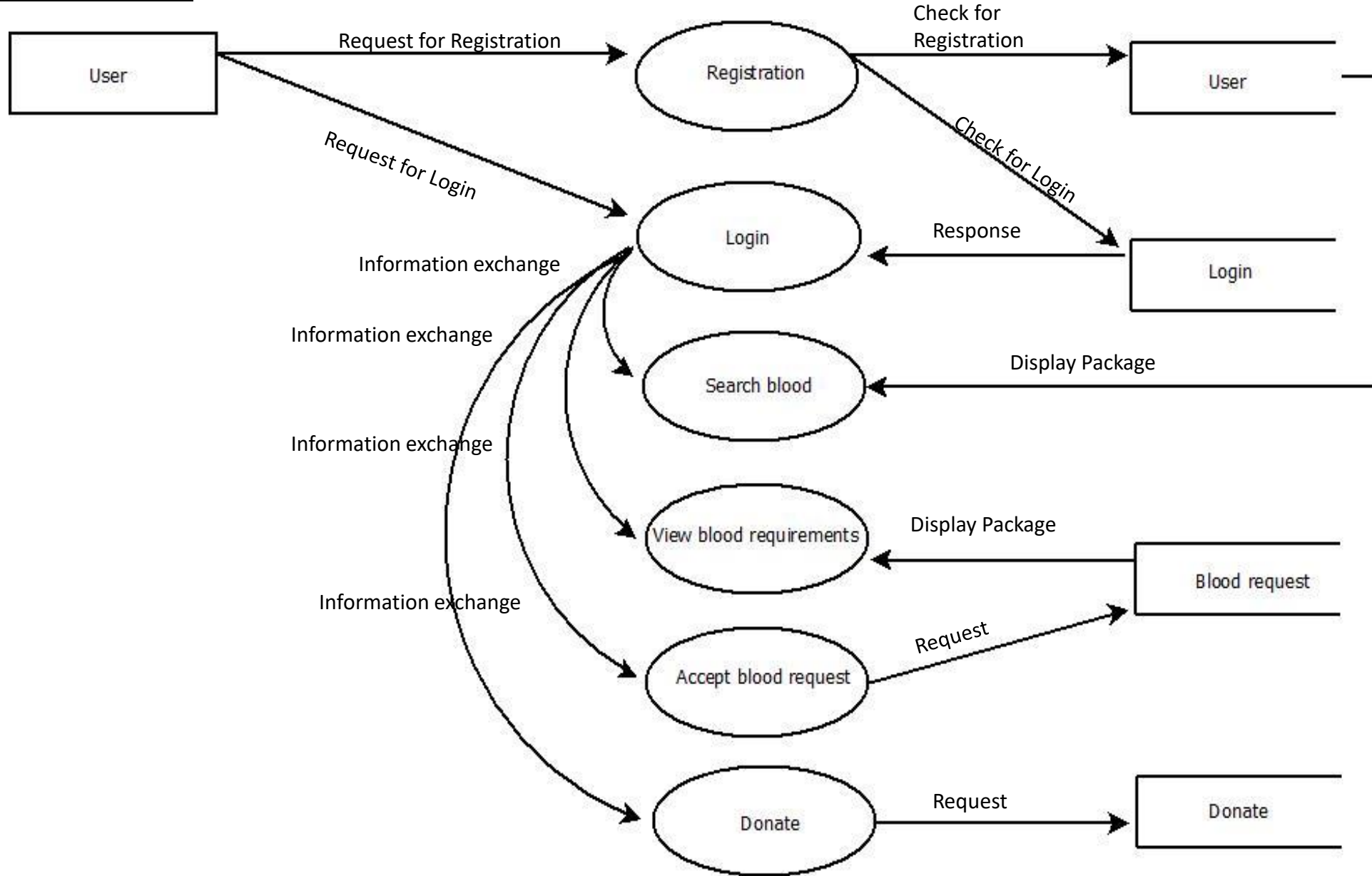
- Processor : Intel Pentium Core i3 and above, 64 bits
- RAM : Min3GB RAM
- HARD DISK: 10 GB

DATA FLOW DIAGRAM

Level 0



Level 1.1



Level 1.2

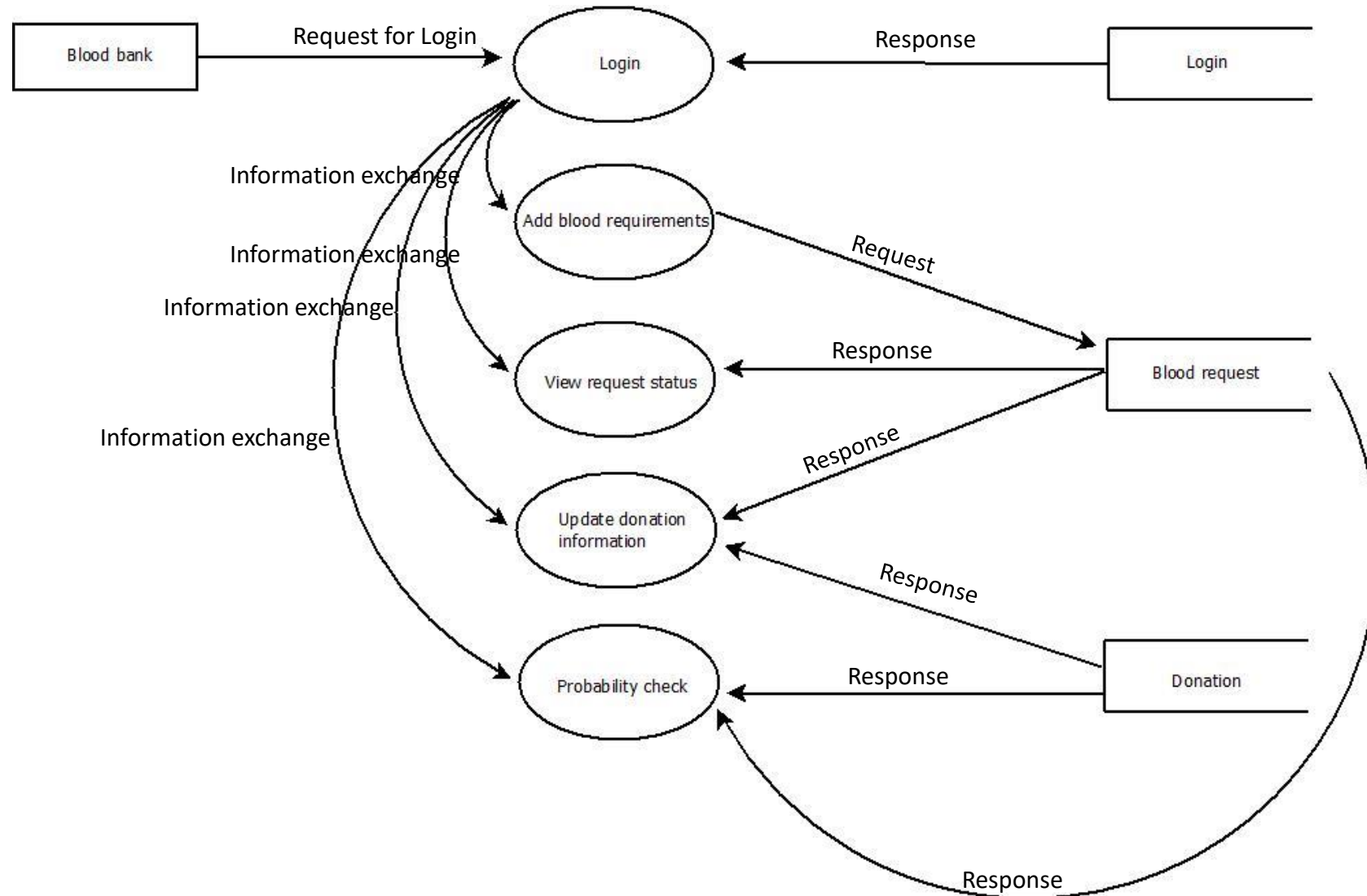




TABLE DESIGN


Blood Donation

	Field	Type	Comment
	id	int(11) NOT NULL	
	uid	int(11) NULL	
	blood_grp	varchar(20) NOT NULL	
	units	int(11) NULL	
	status	varchar(30) NOT NULL	
	date	varchar(15) NOT NULL	




Donation

	Field	Type	Comment
	id	int(11) NOT NULL	
	ulid	int(11) NOT NULL	
	bldrequire_id	int(11) NOT NULL	
	donation_status	varchar(30) NOT NULL	
	date	date NOT NULL	

Login

	Field	Type	Comment
	id	int(11) NOT NULL	
	username	varchar(30) NOT NULL	
	password	varchar(30) NOT NULL	
	type	varchar(30) NOT NULL	

User

	Field	Type	Comment
	id	int(11) NOT NULL	
	ulid	int(11) NOT NULL	
	fname	varchar(20) NOT NULL	
	lname	varchar(20) NOT NULL	
	place	varchar(30) NOT NULL	
	post	varchar(30) NOT NULL	
	pin	bigint(20) NOT NULL	
	gender	varchar(30) NOT NULL	
	blood_grp	varchar(30) NOT NULL	
	phone	bigint(20) NOT NULL	
	email	varchar(30) NOT NULL	

FUTURE ENHANCEMENTS

LOCATION BASED SERVICES

Location-based services (LBS) refers to services that are based on the location of a mobile user as determined by the device's geographical location. LBS applications provide services and information that are most relevant to the user at that location. So the user can easily find the donor in the near location .

PROJECT PLAN

User Story ID	Task Name	Start Date	End Date	Days	Status
1	Sprint 1	30/11/2021	04/12/2021	5	Completed
2		16/12/2021	20/12/2021	5	Completed
3		24/12/2021	27/12/2021	4	Completed
4	Sprint 2	09/01/2022	16/01/2022	7	Completed
5		18/01/2022	22/01/2022	4	Completed
6	Sprint 3	23/01/2022	27/01/2022	5	Completed
7		28/01/2022	31/01/2022	4	Completed
8	Sprint 4	01/02/2022	03/02/2022	3	Completed
9		06/02/2022	09/02/2022	4	Completed
10		11/02/2022	14/02/2022	4	Completed
11		15/02/2022	19/02/2022	5	Completed

USER STORY

User Story ID	As a <type of user>	I want to	So that I can
1	Blood Bank	login	login successful with correct username and password
2	Blood Bank	Add blood requirement	Add request for required blood group
3	Blood Bank	View request status	View blood requirement request status
4	Blood Bank	Update donation	information Update request status to donation
5	Blood Bank	Probability check	Checking probability of blood availability
6	User	Registration	Register user by details
7	User	Login	Login by using username and password
8	User	Search blood	Search blood by group
9	User	View blood requirements	View same blood group requirements
10	User	Accept request	Accept blood request
11	User	Donate	Donate blood

PRODUCT BACKLOG

User Story ID	Priority <High/Medium/Low>	Size (Hours)	Sprint <#>	Status <Planned/In progress/Completed>	Release Date	Release Goal
1	Medium	2	1	Completed	04/12/2021	Table design
2	High	3		Completed	20/12/2021	Form design
3	High	5		Completed	27/12/2021	Basic coding
4	High	5	2	Completed	16/01/2022	Information Update request status to donation
5	Medium	5		Completed	22/01/2022	Checking probability of blood availability
6	High	5	3	Completed	27/01/2022	Register user by details
7	Medium	5		Completed	31/01/2022	Login by using username and password
8	Medium	5		Completed	03/02/2022	Search blood by group
9	High	5	4	Completed	09/02/2022	View same blood group requirements
10	Medium	5		Completed	14/02/2022	Accept blood request
11	Medium	5		Completed	19/02/2022	Output Generation

SPRINT BACKLOG PLAN

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	04/12/2021	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Form design	20/12/2021	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0
Basic coding	27/12/2021	5	0	0	0	0	0	0	0	0	1	1	1	1	1	0
User story #4,#5																
Information Update request status to donation	16/01/2022	5	1	1	1	0	0	1	1	0	0	0	0	0	0	0
Checking probability of blood availability	22/01/2022	5	0	0	1	1	1	1	1	0	0	0	0	0	0	0

User story #6,#7,#8																
Register user by details	27/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Login by using username and password	31/01/2022	5	0	0	0	1	1	1	1	1	0	0	0	0	0	0
Search blood by group	03/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
User story #9,#10,#11																
View same blood group requirements	10/02/2022	5	0	0	0	0	0	1	1	1	1	1	0	0	0	0
Accept blood request	14/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Output Generation	19/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Total		50	6	6	7	7	7	4	4	2	2	2	1	1	1	0

SPRINT ACTUAL

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1,#2,#3		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Table design	04/12/2021	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Form design	20/12/2021	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0
Basic coding	27/12/2021	5	0	0	0	0	0	0	0	0	1	1	1	1	1	0
User story #4,#5																
Information Update request status to donation	16/01/2022	5	1	1	1	0	0	1	1	0	0	0	0	0	0	0
Checking probability of blood availability	22/01/2022	5	0	0	1	1	1	1	1	0	0	0	0	0	0	0

User story #6,#7,#8																
Register user by details	27/01/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Login by using username and password	31/01/2022	5	0	0	0	1	1	1	1	1	0	0	0	0	0	0
Search blood by group	03/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
User story #9,#10,#11																
View same blood group requirements	10/02/2022	5	0	0	0	0	0	1	1	1	1	1	0	0	0	0
Accept blood request	14/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Output Generation	19/02/2022	5	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Total		50	6	6	7	7	7	4	4	2	2	2	1	1	1	0

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